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Research Article

Organizational Trust Dimensions as Antecedents of Organizational Commitment

Mika Vanhala[1], Pia Heilmann[1] and Hanna Salminen[2*]

[1] *Lappeenranta University of Technology, School of Business and Management, Lappeenranta, Finland*
[2] *University of Tampere, School of Management, Tampere, Finland*

This study examines different dimensions of organizational trust as antecedents of employees' organizational commitment. Quantitative survey data from a large forest company ($N = 411$) and a large ICT company ($N = 304$) in Finland were collected. A structural equation modeling was used in order to test the hypotheses. The results from both samples demonstrated that impersonal trust dimensions were positively related to organizational commitment. Whereas, interpersonal trust dimensions did not have a significant impact on employees' organizational commitment. Perceived fairness and capability of the organization's policies and practices play an important role in terms of reinforcing employees' organizational commitment. Copyright © 2016 John Wiley & Sons, Ltd.

INTRODUCTION

Employees are often argued to be the most important asset in organizations' annual reports (Barney and Wright, 1998). Yet, they are usually the first to be influenced by cost reduction and downsizing, for example, in the forms of reduced salaries and headcounts. One outcome of these actions can be a mistrust and a creation of a trust gap between employees and managers (Tyler, 2003), and in the whole organization (Laschinger *et al.*, 2000). This issue is a particularly actual at the moment because of the current economic downturn faced by many Finnish companies. Without the trust of employees, managers and the organization as a whole are likely to see reduced productivity and weakened performance (Zeffane and Connell, 2003). In other words, it has been stated that organizational efficiency is possible when different actors work together effectively in a climate of positive trust (Zeffane and Connell, 2003) enhancing effective communication (Shockley-Zalabak *et al.*, 2000; Blomqvist, 2002), organizational collaboration (Mayer *et al.*, 1995; Tyler, 2003) and accumulation of social capital (Tan and Lim, 2009).

As a concept, organizational trust refers to both trust in individuals and trust in the organization as a whole (Shockley-Zalabak *et al.*, 2000). However, the interpersonal trust has dominated the organizational trust literature, and previous studies have mainly focused on trust in managers, neglecting trust between co-workers (Tan and Tan, 2000; Ferres *et al.*, 2004; Tan and Lim, 2009). Just recently, the attention has shifted toward trust at the organizational level (Searle and Dietz, 2012). Thus, there is increasing interest in the impersonal element of organizational trust (Bachmann, 2006), known as *institutional* (see, e.g. Costigan *et al.*, 1998; McKnight *et al.*, 1998) or *systems* (Luhmann, 1979; Büssing, 2002) trust. However, the concept of impersonal trust and its underpinnings are not yet clear in the research on organizations. It is used mainly in sociology and economics, and more on the macro level. In management literature, the concept of impersonal trust has only recently emerged in scientific discussion. As a concept, impersonal trust refers to the trust employees have in organizations' structures and processes, as well as in the fairness of its HRM policies and decision-making processes (see Costigan *et al.*, 1998; McKnight *et al.*, 1998; Kramer, 1999; Tan and Tan, 2000; Atkinson and Butcher, 2003). However, it has been studied very little in the organizational context, but some studies have already recognized its impact more or less explicitly (see Costigan *et al.*, 1998; McKnight *et al.*, 2002;

*Correspondence to: Hanna Salminen, University of Tampere, School of Management, Kanslerinrinne 1, Tampere FI-33014, Finland.
E-mail: hanna.maria.salminen@uta.fi

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Atkinson and Butcher, 2003; Shamir and Lapidot, 2003; Vanhala *et al*., 2011). For example, impersonal trust has been demonstrated to have an impact on the innovativeness of organizational units (e.g. Ellonen *et al*., 2008; Ahteela *et al*., 2010).

This study contributes to trust literature in three different ways. First, organizational trust is studied by focusing on both interpersonal (trust in co-workers and in managers) and impersonal trust (trust in systems). Second, different dimensions of interpersonal and impersonal trust are studied as antecedents of organizational commitment. Although there is already studies (see, e.g. Dirks and Ferrin, 2001; Aryee *et al*., 2002; Büssing, 2002; Bijlsma and Koopman, 2003; Zeffane and Connell, 2003) which have revealed trust to be a significant determinant of organizational commitment, there is a lack of empirical evidence on the relationship between different dimensions of organizational trust and organizational commitment. This is important, because it gives indications, how trust-related interventions aiming to increase the organizational commitment of employees should be directed. Third, building employees' trust in the employer can be seen a goal for all kinds of organizations (Zhang *et al*., 2008). But, trust matters, especially in knowledge-intensive organizations, like ICT companies, because the willingness of knowledge-workers to share knowledge is dependent on how fair and trustworthy they perceive their organization (Blomqvist, 2002; Tyler, 2003; Tzortzaki and Mihiotis, 2014). Therefore, the significance of organizational trust dimensions for employees' organizational commitment is studied and compared in two large companies representing different industrial sectors, namely ICT and forest industry.

Hence, in order to address this research gap, the objective of this study is *to examine the role of both interpersonal and impersonal trust in employees' commitment to their employer organization*. More specifically, we examine *which dimensions of organizational trust are linked to employees' organizational commitment*. We address this objective by presenting hypotheses, which will be tested by using structural equation modeling among samples from a large forest ($N = 411$) and ICT company ($N = 304$) in Finland.

Next, the theoretical framework of this study is discussed followed by methodology. After that, the empirical results are presented. The article concludes with discussion, implications for practice and suggestions for future research.

THEORETICAL FRAMEWORK

Trust within the organization

The concept of trust can be understood and defined in different ways. First, a distinction can be made between trust as a *behavioral intention* and trust as an *internal action* (Colquitt *et al*., 2007, 909). Second, some writers have used trust as a synonymous with trustworthiness, while others have seen trust as part of personality that develops in childhood (Colquitt *et al*., 2007). There exists also opposite views about, whether employees can simultaneously demonstrate trust and distrust to a single subject (Saunders *et al*., 2014). In this study, we rely on the definition presented by Rousseau *et al*. (1998, 395) which states that trust is "*a psychological state comprising the intention to accept vulnerability based upon positive expectations of the intentions or behavior of another*". These positive expectations are based on perceptions about the other party and its trustworthiness, whereas the intention to accept vulnerability is a risk-taking act. The trusting party relies on the trusted party to do something on their behalf, for example without constant monitoring (see, e.g. Dietz and Den Hartog, 2006). According to Rousseau *et al*. (1998), there are two conditions that must exist for trust to arise: risk and interdependence. *Risk* is the probability of loss perceived by the trusting party. The connection between trust and risk comes from a reciprocal relationship in that risk creates the opportunity for trust that can subsequently lead to risk taking. Another necessary condition, *interdependence*, implies that one party's interests cannot be fulfilled without reliance on the other party (Rousseau *et al*., 1998).

In organizational context, objects of trust can be organization, groups or individuals (Korsgaard *et al*. 2008, 89). In other words, a person can target his or her trust in particular people (i.e. personal trust) or in organized systems (i.e. impersonal trust) (Maguire and Phillips, 2008). This study understands organizational trust broadly covering both interpersonal (Mayer *et al*., 1995; Costigan *et al*., 1998; Mayer and Davis, 1999) and impersonal trust (McCauley and Kuhnert, 1992; McKnight *et al*., 1998; McKnight *et al*., 2002).

Interpersonal trust is treated as an issue of *lateral* trust, that is, an employee's trust in other employees and *vertical* trust, in other words, the trust in immediate supervisors (McCauley and Kuhnert, 1992). However, most trust studies have investigated the vertical trust, neglecting the lateral trust between co-workers (Tan and Lim, 2009). Interpersonal trust may be based on the *competence*, *benevolence* or *reliability* of the other party. The competence-based form of trust refers to trust in another party's skills, abilities and characteristics: people trust those who they believe can solve problems and deliver desired outcomes (Mayer *et al*., 1995; Whitener *et al*., 1998) The benevolence-based form of trust refers to an assumption that the trusted person wants to do good, that is, to act benevolently without succumbing to egocentric or opportunistic behavior. Trust in another party reflects an expectation that the other party has good intentions and demonstrates concern for the

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welfare of others (Mayer *et al*., 1995; Dirks and Ferrin, 2001) Reliability-based trust refers to the set of principles that the trustor finds acceptable, in other words, one can rely on the other person's actions and words. Trust in a person's reliability also means expectations that the other party will tell the truth and keep their promises (Mayer *et al*., 1995; Williams, 2001). In summary, in this study we define interpersonal trust as, *the positive expectations of an individual employee of the competence, benevolence and reliability of their co-workers and immediate managers* in line with previous studies (Tan and Tan, 2000; Ferres *et al*., 2004; Tan and Lim, 2009).

While interpersonal trust is based on interpersonal interaction between individuals within a particular relationship, *impersonal trust* is based on roles, systems and reputation. Employees of an organization may draw inferences about impersonal trust from the behavior of highly visible role models like top management (Kramer, 1999). According to Costigan *et al*. (1998) for most employees, the decision to trust top management is based more on the outcomes of their decisions and less on direct personal experience of their character or actions. For example, McCauley and Kuhnert (1992) point out that trust between employees and management is not interpersonal in nature, but is instead based on roles, rules and structured relations within the organization. Employees monitor the organizational environment to judge whether to trust management. If the organizational environment encourages a high level of management trust in employees, these employees, in turn, will reciprocate by showing high levels of trust in management. In addition, Blomqvist (1997) states that trusting a person and trusting an organization are two different things. Trust in an organization is based on the way the organization acts, on a particular trustworthy way of behaving. This can stem from a manager's personality or from a strongly centralized decision-making structure, and organizational culture. HRM practices can be also seen as having a central role for influencing employees' trust in their organization (Pucétaité *et al*., 2010).

Gilbert and Tang (1998) describe organizational trust as an employee's feeling of confidence in and support for an employer: the employee believes that the employer will be open and will honor commitments. It thus refers to the employee's faith in the organization's leadership, and the belief that its goals are attainable and that, ultimately, all of its actions will be beneficial to the workforce. In other words, impersonal trust is understood in this study as the evaluation of an organization's trustworthiness as perceived by the employees, that is, the confidence that the organization will act in a way that is beneficial, or at least not detrimental, to them (see, e.g. Tan and Tan, 2000; Atkinson and Butcher, 2003; Maguire and Phillips, 2008). This requires a congruence of the norms and values between both parties. However, the norms and values are embedded on the social and organizational context making organizational trust a context-dependent phenomenon. For example, organizational trust has been demonstrated to be often lower in post-socialist countries than in western countries because of the different social-historical processes. (Pucétaité *et al*., 2010). In this study, impersonal trust is defined as "*the individual employee's expectations about the employer organization's capability and fairness*" (Vanhala *et al*., 2011, 492).

Organizational commitment

The concept of organizational commitment is commonly related to high-trust organizational culture (Mathews and Shepherd, 2002). The early conceptualizations were unidimensional, and organizational commitment was seen either as calculative (Becker, 1960) or attitudinal (Mowday *et al*., 1979). For example, Buchanan (1974) has defined organizational commitment as consisting of three components: identification, involvement, and loyalty. Whereas, Mowday *et al*. (1979) defined organizational commitment fairly similarly as characterized by three factors: (i) a strong belief in and an acceptance of the organization's goals and values; (ii) a willingness to exert considerable effort on behalf of the organization and (iii) a strong desire to maintain membership of the organization. Cook and Wall (1980) have incorporated elements of the definitions presented by Buchanan (1974) and Mowday *et al*. (1979) by identifying organizational commitment consisting of (i) organizational identification, (ii) organizational involvement and (iii) organizational loyalty. The first and third components of this definition are similar to those presented by Buchanan (1974). The second component stresses employees' willingness to put effort for the organization's sake (Cook and Wall, 1980), which resembles with one of the component provided by Mowday *et al*. (1979). Later, Meyer and Allen (1991) presented a model of commitment comprising three components: *affective*, *normative* and *continuance commitment*. Affective organizational commitment can be seen as the employees' emotional attachment to their organization. In other words, employees work to a level beyond that required to obtain the specified reward. Employees with normative commitment feel a moral obligation to remain with the employer organization. Continuance commitment refers to the calculative form of commitment: employees assess the value of maintaining their membership of the organization compared to leaving the organization (Meyer *et al*., 2002).

Research concerning organizational commitment has been extensive, and previous studies have focused mainly on its antecedents, correlates and consequences (Meyer *et al*., 2002). According to Mathews

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and Shepherd (2002, 369-370) the three most often used measures of organizational commitment are: the Organizational Commitment Questionnaire (OCQ) conceptualized by Porter *et al*. (1976), the British Organizational Commitment Scale (BOCS) created by Cook and Wall (1980) and the Affective Commitment Scale (ACS) developed by Meyer and Allen (1991, which all pursue to reflect the definition of organizational commitment presented by Buchanan (1974). In this study, we understand organizational commitment as employees' attitudinal commitment toward their organization and measure it with items based on the BOCS scale, which has been used for studying the correlations between trust and organizational commitment (Cook and Wall, 1980).

The link between organizational trust and organizational commitment

Number of positive work-related attitudes and behaviors have been identified as outcomes of organizational trust (Dirks and Ferrin, 2001). For example, organizational trust has been identified as a critical factor for employees' job satisfaction (Shockley-Zalabak *et al*., 2000; Aryee *et al*., 2002) and performance (Barney and Hansen, 1994). In this study, we focus on organizational commitment as an outcome of organizational trust. Even though, previous studies indicate that organizational commitment is one of the central consequences of organizational trust (Aryee *et al*., 2002; Büssing, 2002; Bijlsma and Koopman, 2003), most of the previous studies have focused on a single foci of trust (Tan and Lim, 2009). For example, Ferres *et al*. (2004) found that trust in coworkers was positively related to employees' affective organizational commitment. Dirks and Ferrin (2001) in their meta-analysis demonstrated that interpersonal trust has a significant impact on employees' work-related attitudes (such as organizational commitment) and behaviors. However, they also pointed out that a particular context may determine, whether interpersonal trust has a main or moderating effect on employees' reactions. For example, it can be expected that during a downsizing or mergers, interpersonal trust can have a significant main effect on employees' attitudes and behaviors, whereas, in stable situations, the moderation effect is more likely (Dirks and Ferrin, 2001, 462).

Only a handful of studies (for example, Nyhan 1999; Laschinger *et al*., 2000; Tan and Tan, 2000) have analyzed the influence of both interpersonal and impersonal trust on organizational commitment. Furthermore, the results of these studies have been mixed. For example, Laschinger *et al*. (2000) analyzed the effects of organizational trust on organizational commitment among Canadian nurses. They used Kanter's (1977, 1993) model of workplace empowerment which incorporates both informal (alliances with supervisors, subordinates etc.) and formal job characteristics (formal job definitions, recognition, flexibility) as well as *organizational structures* (such as support, enough resources to do one's job, opportunities to learning etc.) Their study demonstrated that the organizational structures contributed most to nurses' empowerment. Empowerment had a direct effect on employees' affective organizational commitment, but also an indirect effect through trust in management (Laschinger *et al*., 2000). Tan and Tan (2000) found also that trust in organization (impersonal trust) was associated with higher organizational commitment and lower turnover intentions, whereas, interpersonal trust (trust in supervisors) correlated positively with innovative behavior and satisfactions with supervisor. Whereas, Nyhan (1999) examined in his study the antecedents of affective organizational commitment by focusing on both interpersonal and system trust among public sector employees in US. His study demonstrated that interpersonal trust had a stronger positive correlate with affective organizational commitment than system-based trust.

The positive relationships between organizational trust dimensions and organizational commitment have been explained by using different theoretical frameworks such as social exchange and psychological contract theory (Colquitt *et al*., 2007). The concept of the psychological contract can be formulated as following: "an exchange agreement of promises and contributions between two parties: an employee, and an employer" (Janssens *et al*., 2003, 1350). Psychological contract theory also represents the employment relationship in terms of the subjective belief of employees and employers that a promise has been made (Rousseau and Schalk, 2000; Rousseau, 2011). The theory refers to the implicit, reciprocal rights and obligations that individuals perceive to be part of their exchange relations (Rousseau, 1995, 2011). In other words, employees interpret organizational actions such as HRM practices and the trustworthiness of management as indicative of the organization's commitment to them. As a result, employees reciprocate, for example, by offering commitment to the organization. Their consequent behavioral responses reflect the level of mutual commitment (Whitener, 2001).

In the psychological contract theory, managers are often seen as representatives of the organization giving signals to employees about the state of the psychological contract (Bowen and Ostroff, 2004). This indicates that when employees trust in managers it can have positive influences on their commitment to the organization. However, psychological contract literature has been criticized for disregarding the influence of co-workers and the collective context, which may influence how employees' evaluate their psychological contracts (Coyle-Shapiro and Parzefall, 2008). New forms of doing jobs, such as working in teams, have tightened the co-operation between employees. Furthermore, social exchanges between employees are likely to

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strengthen the reciprocal relationship between employees resulting in increased trust and organizational commitment (Ferres *et al*., 2004).

Hypotheses

Based on previous above presented theoretical review and evidence from previous trust studies, we assume that different dimensions of interpersonal and impersonal trust can be positively associated with employees' organizational commitment. Thus, we hypothesize:

Hypothesis 1a–c: *An employee's trust in the (i) competence, (ii) benevolence and (iii) reliability of their co-workers will be positively associated with organizational commitment.*

Hypothesis 2a–c: *An employee's trust in the (i) competence, (ii) benevolence and (iii) reliability of their managers will be positively associated with organizational commitment.*

Hypothesis 3a–b: *An employee's trust in the (i) capability and (ii) fairness of the employer organization will be positively associated with organizational commitment.*

METHOD

Data collection and sampling

Sample 1 was collected in August–September 2008 from blue-collar workers working in a large forest company in Finland. In total, 700 questionnaires with a covering letter were randomly distributed by the company representatives among the firm's 1400 employees. We received 411 useable responses from eight units within two of the firm's mills (a 58.7% response rate). Those units include paper, pulp production and the maintenance service unit. Most of the respondents were men, most had long tenures at the firm and most did not have a tertiary-level education (see Table 1).

In order to improve the potential generalizability of our findings to different organizational and job contexts, we undertook an additional sample within another industry. The second sample is based on white-collar workers working in a large ICT company in Finland. The data were collected in May–June 2008 from 17 work units within three R&D centers. Examples of work units in this case included software engineering and hardware planning. A cover letter with a personal link to the questionnaire was sent to 1 384 potential respondents via email. A total of 304 completed questionnaires were received, representing a 22% response rate. Men were again in the majority, but this sample was notably younger and higher educated than the forest company workers, and had been with their current employer for a far shorter period on average (see Table 1). Based on companies' annual HR reports and discussions with the companies' representatives, the demographics of both samples represent the population of the whole workforce of the studied companies.

Table 1 Profile of the respondents (in percentages)

	Sample 1	Sample 2
Gender		
Men	79.3	84.9
Women	18	14.8
Age		
21–30	7.8	21.1
31–40	23.4	53.3
41–50	39.9	21.1
51–60	25.8	2.3
Education		
Vocational education	63	2.3
Further education qualification	8.5	39.1
Higher education qualification	4.9	45.1
Tenure		
Less than 10 years	0.2	78.9
11–15 years	14.4	11.2
16–20 years	13.6	3.3
More than 20 years	52.3	6.3
Job position		
Employees	72.5	80.6
"Officials"	14.8	2.9
Team leaders	6.1	—
Managers	3.6	16.1

Measures

All of the measures were based on a 5-point Likert scale anchored with *strongly disagree* (1) and *strongly agree* (5). The items were adopted from earlier studies and further modified, with the help of companies' representatives, in order to make them more understandable in the companies' contexts. (See Appendix 1 for the measures and the wording of the items.)

Independent variable

Organizational trust was analyzed both as an interpersonal and an impersonal form of trust. For the interpersonal form of trust, both trust in co-workers and trust in managers (16 items for both) included three dimensions: competence-based (5 items), benevolence-based (5 items) and reliability-based trust (6 items). The items were adapted with few modifications from Mayer and Davis (1999) and McKnight *et al*. (2002). A sample item is "*The employees/managers in my unit are concerned with my welfare*".

Impersonal trust was measured with the 31 items developed, tested and affirmed by Vanhala *et al*. (2011). The scale is specifically designed to assess employees' impersonal trust in their employer as

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an organization. The respondents were asked to indicate how they perceived the statements related to two dimensions of the impersonal form of trust: capability (18 items) and fairness (13 items). The items concerned organizing activities, the sustainability of the organization, top management characteristics, technological reliability, competitiveness, fairness in HRM, fair play in the organization and communication. A sample item is "*My organization functions on such a firm foundation that changes in our business context do not threaten our operations*".

Dependent variable

The organizational commitment scale was based on seven items taken from the BOCS (Cook and Wall, 1980) covering identification (two items), loyalty (three items) and involvement (two items). A sample item is "*Knowing that my work has made a contribution to the good of the whole organization pleases me*".

Control variables

In the literature on trust and organizational commitment certain differences between individuals have been found to influence their perceptions (see Tzafrir *et al.*, 2004; Kuvaas, 2008). In addition, some demographic variables could influence how commitment is perceived. We therefore used job tenure, age and the respondent's work unit as control variables in our models. We classified job tenure as under one year, 1–5 years, 6–10 years, 11–15 years, 16–20 years or over 20 years. Age was classified as under 21 years, 21–30 years, 31–40 years, 41–50 years, 51–60 or over 60 years. Respondents indicated the unit they worked in on the questionnaire.

Assessment of bias

Given the data-collection methods used (the questionnaires were distributed by company representatives and were returned within a single time period), assessment of non-response bias was not possible in sample 1. However, we were able to conduct an analysis of variance (via ANOVA) on sample 2. It was assumed that those who were among the last to respond most closely resembled non-respondents (Armstrong and Overton, 1977). The early and late respondents were compared on all constructs, and no significant differences between them were found. Thus, non-response bias was not assessed as likely to cause a problem in this study.

The data relied on self-reported measures, and therefore common method variance might have biased the findings. Harman's one-factor test (Podsakoff *et al.*, 2012) was used in order to assess the likelihood of such risk. A principal component analysis incorporating all the items from all of the constructs was therefore conducted. The solution was investigated in order to determine the number of factors that would be needed to account for the variance in all of the items: the largest factor accounted for about 30% of the variance in both samples (Sample 1: 32% and sample 2: 31%). Thus, bias related to common method variance did not seem to be a problem.

RESULTS

We used Partial Least Squares (PLS) for the analyses (version 2.0 M3 of SmartPLS). The first step was to assess the reliability and validity of the measurement models. We then used the structural model to test our hypotheses.

Correlation analysis

The means, standard deviations and correlation matrixes are presented in Tables 2 and 3. The mean values in both samples were rather similar. The highest mean scores were found in both samples in terms of *co-workers competence* indicating that respondents trusted their co-workers' ability to do their jobs. The lowest mean values were for the impersonal trust dimensions, in other words, *perceived capability and fairness of the organization*. Whereas,

Table 2 Correlation matrix: sample 1

Variable	*Mean*	*SD*	*1*	*2*	*3*	*4*	*5*	*6*	*7*	*8*
1. Co-workers' competence	4.16	0.66								
2. Co-workers' benevolence	3.45	0.80	0.541**							
3. Co-workers' reliability	3.71	0.76	0.624**	0.774**						
4. Managers' competence	3.80	0.84	0.569**	0.363**	0.413**					
5. Managers' benevolence	3.39	0.87	0.359**	0.559**	0.427**	0.654**				
6. Managers' reliability	3.45	0.91	0.395**	0.425**	0.504**	0.707**	0.797**			
7. Capability of the organization	3.20	0.63	0.416**	0.321**	0.334**	0.587**	0.572**	0.637**		
8. Fairness of the organization	3.03	0.62	0.303**	0.413**	0.370**	0.556**	0.650**	0.720**	0.750**	
9. Commitment	3.26	0.78	0.276**	0.224**	0.200**	0.479**	0.462**	0.493**	0.681**	0.599**

Notes:
**Correlation is significant at the 0.01 level.
*Correlation is significant at the 0.01 level.

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Table 3 Correlation matrix: sample 2

Variable	*Mean*	*SD*	*1*	*2*	*3*	*4*	*5*	*6*	*7*	*8*
1. Co-workers' competence	4.01	0.67								
2. Co-workers' benevolence	3.63	0.72	0.555**							
3. Co-workers' reliability	3.81	0.68	0.642**	0.714**						
4. Managers' competence	3.54	0.97	0.595**	0.428**	0.479**					
5. Managers' benevolence	3.47	0.95	0.458**	0.643**	0.518**	0.696**				
6. Managers' reliability	3.54	0.90	0.487**	0.509**	0.677**	0.742**	0.792**			
7. Capability of the organization	3.27	0.62	0.395**	0.378**	0.404**	0.586**	0.565**	0.598**		
8. Fairness of the organization	3.30	0.65	0.392**	0.439**	0.470**	0.635**	0.647**	0.722**	0.692**	
9. Commitment	3.46	0.64	0.295**	0.345**	0.338**	0.470**	0.474**	0.486**	0.500**	0.565**

Notes:
**Correlation is significant at the 0.01 level.
*Correlation is significant at the 0.01 level.

trust in managers (trust in their competence, benevolence and reliability) had strong positive correlations with the dimensions of impersonal trust. The mean values of organizational commitment were moderate in both samples. The level of organizational commitment was slightly higher in the ICT company than in the paper company. There were significant correlations between the independent variables (i.e. interpersonal and impersonal trust) and the dependent variable (organizational commitment). This supports our expectation that organizational trust and organizational commitment would be interconnected.

Measurement models

In order to test the measurement models, we assessed both the internal consistency and the discriminant validity.

Internal consistency

Measures of construct reliability (CR) and convergent validity represent internal consistency. According to the CR test, all the constructs showed a value above the threshold (0.7, adopted by Bagozzi and Yi, 1991) (see Tables 2 and 3). In order to test for convergent validity we examined CR, the factor loading and Average Variance Extracted (AVE). The loadings for the majority of the items were high (with the exception of one item in capability and one item in fairness) and statistically significant (see Appendix 1). This means that they were all related to their specific constructs, verifying the posited relationships among the indicators and constructs. Second, the AVE measure exceeded the cut-off point 0.50 (see Fornell and Larcker, 1981) in most of our constructs (see Tables 4 and 5). However, it fell short for capability, fairness and organizational commitment, but when all the criteria for convergent validity are taken into account this measure is also adequate.

Discriminant validity

This indicates the extent to which any one construct differs from the others, and in assessing it the AVE should be greater than the variance shared between that construct and the other constructs in the model (i.e. the squared correlation between two constructs) (Fornell and Larcker, 1981). The constructs of our study fulfill this condition: in our two models (see Tables 4 and 5) the diagonal elements (AVEs) are greater than the off-diagonal elements in the corresponding rows and columns. The only exceptions are capability and fairness in both models and organizational commitment in sample 1. In sum, the model assessments showed adequate validity and reliability for the operationalization of the concepts.

Table 4 Discriminant validity: sample 1

Variable	*1*	*2*	*3*	*4*	*5*	*6*	*7*	*8*	*9*
1. Co-workers' competence	**0.69**								
2. Co-workers' benevolence	0.29	**0.67**							
3. Co-workers' reliability	0.39	0.60	**0.68**						
4. Managers' competence	0.32	0.13	0.17	**0.75**					
5. Managers' benevolence	0.13	0.31	0.18	0.43	**0.72**				
6. Managers' reliability	0.16	0.18	0.25	0.50	0.64	**0.72**			
7. Capability of the organization	0.17	0.10	0.11	0.34	0.33	0.41	**0.40**		
8. Fairness of the organization	0.09	0.17	0.14	0.31	0.42	0.52	0.56	**0.39**	
9.Commitment	0.08	0.05	0.04	0.23	0.21	0.24	0.46	0.36	**0.44**

Notes: AVE associated with the construct is presented diagonally. The squared correlations between the constructs are presented in the lower left triangle.

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Table 5 Discriminant validity: sample 2

Variable	*1*	*2*	*3*	*4*	*5*	*6*	*7*	*8*	*9*
1. Co-workers' competence	**0.65**								
2. Co-workers' benevolence	0.31	**0.58**							
3. Co-workers' reliability	0.41	0.51	**0.63**						
4. Managers' competence	0.35	0.18	0.23	**0.80**					
5. Managers' benevolence	0.21	0.41	0.27	0.48	**0.71**				
6. Managers' reliability	0.24	0.26	0.46	0.55	0.63	**0.70**			
7. Capability of the organization	0.16	0.14	0.16	0.34	0.32	0.36	**0.39**		
8. Fairness of the organization	0.15	0.19	0.22	0.40	0.42	0.52	0.48	**0.37**	
9. Commitment	0.09	0.12	0.11	0.22	0.22	0.24	0.25	0.32	**0.37**

Notes: AVE associated with the construct is presented diagonally. The squared correlations between the constructs are presented in the lower left triangle.

Testing the research model

Our research model was capable of explaining 55% of the variance in sample 1 and 41% of the variance in sample 2 (see Tables 6 and 7). We estimated path models reflecting the posited relationships between the different elements of organizational trust and organizational commitment to test the hypotheses.

In sample 1 (see Table 6), only one (H1c trust in co-workers' reliability) of the path estimates from the employees' trust in their co-workers to organizational commitment (H1a–H1c) had a significant impact on organizational commitment. However, the impact was contrary to our hypotheses ($B = -0.113$, $p < 0.01$). We also predicted direct paths from different dimensions of trust in managers (H2a–2c) and trust in the employer organization (H3a–3b) to organizational commitment. Of those path estimates only two, the capability of the organization (H3a) and fairness of the organization (H3b), were as expected. The effect of capability ($B = 0.458$, $p < 0.005$) and fairness ($B = 0.252$, $p < 0.005$) of the organization were significant and moved in the predicted direction.

The form of support for our hypotheses was rather same in sample 2 (see Table 7). Of the path estimates of employees' trust in co-workers to organizational commitment (H1a–H1c), none had a significant impact on organizational commitment. We also predicted paths from dimensions of trust in managers (H2a–2c) to organizational commitment. Again, none of these were significant. Only trust in the employer organization's capability (H3a) and fairness (H3b) were as hypothesized. The effects of capability ($B = 0.196$, $p < 0.005$) and of fairness (0.356, $p < 0.005$) of the organization on organizational commitment were significant and moved in the predicted direction.

DISCUSSION

Both organizational trust (Cook and Wall, 1980; Pucétaité *et al*., 2010) and organizational commitment (Mowday *et al*., 1979; Meyer *et al*., 2002) are seen as significant ingredients of organizational effectiveness and the well-being of employees. This

Table 6 Testing the research model: sample 1

Path	Path coefficient	t-value
Control variables		
Tenure ➔ Commitment	−0.086*	1.811
Age ➔ Commitment	0.179***	3.832
Unit ➔ Commitment	−0.004 n.s.	0.187
Dependent variable		
Co-workers' competence ➔ Commitment	0.062 n.s.	1.35
Co-workers' benevolence ➔ Commitment	0.017 n.s.	0.407
Co-workers' reliability ➔ Commitment	−0.113**	2.046
Managers' competence ➔ Commitment	0.067 n.s.	1.482
Managers' benevolence ➔ Commitment	0.009 n.s.	0.182
Managers' reliability ➔ Commitment	0.021 n.s.	0.444
Capability of the organization ➔ Commitment	0.458***	7.623
Fairness of the organization ➔ Commitment	0.252***	4.278
R^2		0.545

Notes:
***Significance < 0.005.
**Significance < 0.01.
*Significance < 0.05.

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Table 7 Testing the research model: sample 2

Path	Path coefficient	t-value
Control variables		
Tenure ➔ Commitment	−0.075 n.s.	1.515
Age ➔ Commitment	−0.033 n.s.	0.902
Unit ➔ Commitment	−0.022 n.s.	0.701
Dependent variable		
Co-workers' competence ➔ Commitment	0.073 n.s.	1.110
Co-workers' benevolence ➔ Commitment	0.000 n.s.	0.002
Co-workers' reliability ➔ Commitment	−0.000 n.s.	0.002
Managers' competence ➔ Commitment	0.116 n.s.	1.457
Managers' benevolence ➔ Commitment	0.120 n.s.	1.305
Managers' reliability ➔ Commitment	−0.123 n.s.	1.225
Capability of the organization ➔ Commitment	0.196**	2.488
Fairness of the organization ➔ Commitment	0.356***	4.115
R^2		0.406

Notes:
***Significance < 0.005.
**Significance < 0.01.
*Significance < 0.05.

study contributed to previous organizational trust studies in three ways. First, we studied organizational trust broadly covering both interpersonal and impersonal aspects of trust. Although it is recognized that trust in organizations operates at multiple levels (Rousseau *et al*., 1998), there is no clear consensus on the concept of trust within the organization. Earlier studies have tested the concept of *interpersonal* trust (i.e. trust between employees and managers or the top management) and its role in organizational settings, and in different outcomes quite extensively (McCauley and Kuhnert, 1992; Costigan *et al*., 1998). Whereas, the concept of impersonal trust has attracted less attention among researchers (see Searle *et al*., 2011; Eberl *et al*., 2012). Only recently studies have begun to acknowledge the *impersonal* dimension of organizational trust (McCauley and Kuhnert, 1992; Costigan *et al*., 1998; Maguire and Phillips, 2008; Tan and Lim, 2009; Vanhala *et al*., 2011) where employees place trust in their top management team as a unit, and in their organization as a functional structure (e.g. in terms of strategy, vision and processes).

Second, we contributed to the organizational trust literature by analyzing both interpersonal and impersonal trust dimensions as antecedents of organizational commitment. To the best of the researchers' knowledge this is one of few studies, and the first systematic large two-sample study, to examine the relationship of (i) different dimensions of interpersonal trust and (ii) impersonal trust and organizational commitment. We believe that our findings can provide academics both in human resource management and business strategy, as well as managers and HRM practitioners in organizations, with new knowledge and a more holistic understanding of the linkage between organizational trust and organizational commitment. The specific aim of this study was to show which dimensions of organizational trust are linked most critically to employees' organizational commitment. We developed and tested eight hypotheses to meet the aim. The first three (H1a–1c) suggested that trust in co-workers positively affects organizational commitment. The second set of hypotheses (H2a–2c) examined the relationship between trust in managers and organizational commitment. The last set of two hypotheses concerned trust in the employer and organizational commitment. The results of testing these hypotheses for two different empirical studies are summarized in Table 8.

Third, the findings from the forest and ICT company in Finland validated only two of our hypotheses. According to our analysis, the empirical data supports Hypothesis 3a (the existence of a positive relationship between capability of the employer organization and commitment). In other words, if employees trust that their employer organization is capable (e.g. in terms of competitiveness, top management characteristics, technological reliability) they will be more committed to that employer. The other hypothesis supported was Hypothesis 3b (the existence of a positive relationship between the fairness of the employer organization and commitment). This means that if employees perceive that they can trust the employer to act fairly (e.g. through equitable HRM practices, general fair play and reliable communication) they will feel more loyal to their organization, identify with its goals and will be willing to get positively involved in its initiatives.

Both of the supported hypotheses concerned trust in the employer organization, that is, impersonal trust. Overall, the results suggest that only impersonal trust had an effect on organizational commitment in the studied samples. This result offers support to psychological contract theory, which argues that employees reflect the positive treatment they receive from their

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Table 8 Summary of the findings

Hypotheses	Sample 1	Sample 2
Hypothesis 1a: Employee's trust in competence of the co-workers will be positively associated with commitment.	Not supported	Not supported
Hypothesis 1b: Employee's trust in benevolence of the co-workers will be positively associated with commitment.	Not supported	Not supported
Hypothesis 1c: Employee's trust in reliability of the co-workers will be positively associated with commitment.	Not supported	Not supported
Hypothesis 2a: Employee's trust in competence of the managers will be positively associated with commitment.	Not supported	Not supported
Hypothesis 2b: Employee's trust in benevolence of the managers will be positively associated with commitment.	Not supported	Not supported
Hypothesis 2c: Employee's trust in reliability of the managers will be positively associated with commitment.	Not supported	Not supported
Hypothesis 3a: Employee's trust in capability of the employer organization will be positively associated with commitment.	Supported	Supported
Hypothesis 3b: Employee's trust in fairness of the employer organization will be positively associated with commitment.	Supported	Supported

organization back to the organization. In both samples the coefficient of determination for the research models was quite high at 55% for the forest company and 41% for the ICT company.

Thus, the main finding of the current research was that when studying organizational trust dimension by dimension, only impersonal trust was an important factor in terms of enhancing employees' organizational commitment. However, it should be pointed out that all dimensions of organizational trust correlated positively with each other. The rather strong positive correlation between trust in managers and impersonal trust dimensions can be attributed to the fact that employees' often perceive supervisors as representatives of the organization (Bowen and Ostroff, 2004). Therefore, "a positive spill-over effect" is also possible; when employees trust in their supervisors, they ultimately have also confidence on the organization as a whole (Tan and Tan, 2000).

As far as trust in co-workers or managers was concerned, they did not have a positive effect on the level of organizational commitment. The only statistically significant relationship concerning interpersonal trust was negative. In sample 1, trust in co-workers' reliability was negatively associated with organizational commitment. This result partly contradicts with some previous studies. For example, Cook and Wall (1980) found that blue-collar workers' trust in peers correlated substantially positively with their organizational commitment. Whereas, Büssing (2002) found in a study on employees in different organizations and professions (office workers, IT-managers, nurses and other healthcare professionals) that personal trust in the supervisor and organization correlated significantly with employees' affective type of commitment to the organization, but did not correlate with the instrumental type of organizational commitment.

It has been stated that employees experience trust differently depending on who their colleagues are and in which part of the organization they are working (Shockley-Zalabak *et al*., 2000). In this study, respondents reported rather high trust in co-workers, which can be explained by the notion of self-categorization, which states that individuals who share similar characteristics, such as ethnic background, age, gender, education or roles of membership, may demonstrate strong trust in peers than more diverse work groups (McAllister, 1995; Korsgaard *et al*., 2008). Especially, in the Finnish forest sector, employees have traditionally had a strong feeling of togetherness, reinforced for example, by the strong trade union (Työelämän laatua voi nyt mitata, 2014). However, it is also possible that interpersonal trust can have a moderating effect on organizational commitment (Dirks and Ferrin, 2001). For example, Tan and Lim (2009) in their study found that trust in organization mediated the relationship between trust in coworkers and affective organizational commitment. Therefore, it would be worth investigating in the future, the possible mediating role of interpersonal trust dimensions on organizational commitment.

It should be also pointed out that organizational context is likely to play a significant role in terms of which organizational trust dimensions have significant influence on employees' organizational commitment (Dirks and Ferrin, 2001). For example, the rules and regulations of the organization can influence employees' perceptions about the trustworthiness of a supervisor (Korsgaard *et al*., 2008, 92). In this study, we focused on employees working in two different sectors, which are likely to differ in terms of regulations, level of empowerment and expected supervisory roles.

PRACTICAL IMPLICATIONS

Based on the results of this study, it can be argued that impersonal trust can be used to increase employees' commitment to the organization. In other

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words, while fostering a close supervisory role and interpersonal trust are critical, organizations could benefit from complementary impersonal forms of trust. If employees feel able to trust the organization they work for, they can trust their future to it, even if other employees and supervisors cannot provide sufficient support for the evolution of strong interpersonal trust. If employees can trust the organization without having personalized knowledge of each decision maker and key actor, the organization should be more efficient (Kramer, 1999).

This is especially important if organizations cannot rely solely on interpersonal trust, as when opportunities for face-to-face communication and interpersonal relationship development may be limited because of upheaval caused by a turbulent business environment. Knowledge work and interaction are characterized by complexity, uncertainty and risk, and are increasingly carried out in temporary and technology-enabled task forces, projects and virtual teams that draw employees from competence centers. Leaders may have dual roles, working as experts and only part-time as supervisors of other knowledge workers. Such settings provide very limited opportunities for the natural evolution of interpersonal trust. Trust among employees, and between employees and supervisors, may therefore wear very thin (Adler, 2001; Zeffane and Connell, 2003; Schoorman *et al*., 2007).

Organizations wishing to maintain employees' organizational commitment should pay attention to their daily operations and processes, which influence employees' experiences of organizational trust (Pucétaité *et al*., 2010). Hence, it is important to develop an HRM system that can foster trust, not only in a particular HRM function (e.g. the personnel department) but throughout the HR practices and processes. Moreover, it is matter of the whole management and even the strategy of the organization. Strategic and managerial actions that support organization-wide policies (e.g. communication, job rotation or performance evaluation) could enhance employees trust in the organization, and through that, employees' commitment to their employer.

LIMITATIONS AND FUTURE RESEARCH

This study has some limitations because of the chosen research design, context and measures: those same limitations also serve as a basis for further research directions. First, we collected data from two industries and only in the Finnish context. This limits the generalizability of our results. Therefore, further studies would be required to provide more evidence of whether there are differences in the trust—organizational commitment linkage between different occupations and industries. Further studies might also examine the issue of trust and organizational commitment in different cultural contexts, because trust-related issues may vary considerably between different countries.

A second limitation relates to our cross-sectional data. Based on the theoretical review and previous studies, we assumed that trust precedes organizational commitment. In psychological contract literature, trust has been seen as a mediator between causes (HR practices) and consequences (for example, organizational commitment) (Guest, 1998). In a similar vein, for example, development psychology assumes trust as an antecedent of commitment (Büssing, 2002). However, a longitudinal study would be required to confirm this causal order.

Third, while our tests offered support for the measurement model used, further work could be conducted to improve the discriminant validity between different measures. This relates specifically to the measures for impersonal trust that could be developed to better record this phenomenon. Future studies might examine individuals' propensity to trust. Propensity to trust can be seen as an underlying personality dimension that might significantly influence how one perceives trust. In the operationalization of organizational commitment, different measures such as one provided by Meyer and Allen (1991) should be also used. In addition, the understanding of commitment could be broadened to cover occupational commitment as well as commitment to a work group. In line with the study of Saunders *et al*. (2014), there is also a need to examine the consequences of distrust or "the absence of trust". Finally, the use of new concepts such as work engagement as an outcome of trust could provide a new avenue for future research.

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APPENDIX 1. MEASUREMENT ITEMS: SAMPLE 1 AND SAMPLE 2

Concept	*Item*	*Sample 1*			*Sample 2*		
		Factor loading	*CR*	*α*	*Factor loading*	*CR*	*α*
Co-workers' competence	The employees in my unit have much knowledge on the work that needs to be done.	0.840***	0.92	0.89	0.752***	0.90	0.87
	The employees in my unit are known to be successful in what they do.	0.805***			0.799***		
	I feel very confident about the skills of the employees of my unit.	0.753***			0.868***		
	Most employees in my unit do a very good job at their work.	0.879***			0.870***		
	The large majority of the employees of my unit are competent in their area of expertise.	0.802***			0.744***		
Co-workers' benevolence	The employees in my unit are concerned with my welfare.	0.839***	0.91	0.87	0.781***	0.87	0.81
	My needs and desires are important to the employees of my unit.	0.753***			0.808***		
	The employees in my unit would not knowingly do anything to hurt me	0.853***			0.602***		
	A typical employee in my unit is sincerely concerned with the problems of others.	0.841***			0.839***		
	Most of the times, the employees try to be helpful rather that just look out for themselves.	0.870***			0.742***		
Co-workers' reliability	The employees in my unit have a strong sense of justice.	0.845***	0.93	0.91	0.826***	0.91	0.88
	The employees in my unit try hard to be fair in dealings with others.	0.860***			0.885***		
	The actions and behavior of the employees in my unit are always consistent.	0.800***			0.794***		
	Integrity is a key value in the operations of the employees of my unit.	0.862***			0.813***		
	In general, most employees in my unit keep their promises.	0.822***			0.726***		
	The employees in my unit communicate openly about things that are important to me.	0.749***			0.697***		
Managers' competence	The managers in my unit have much knowledge on the work that needs to be done.	0.828***	0.94	0.92	0.825***	0.95	0.94
	The managers in my unit are known to be successful in what they do.	0.812***			0.893***		
	I feel very confident about the skills of the managers of my unit.	0.909***			0.926***		
	Most managers in my unit do a very good job at their work.	0.872***			0.918***		
	The large majority of the managers of my unit are competent in their area of expertise.	0.905***			0.898***		
Managers' benevolence	The managers in my unit are concerned with my welfare.	0.879***	0.93	0.90	0.858***	0.92	0.90
	My needs and desires are important to the managers of my unit.	0.865***			0.882***		
	The managers in my unit would not knowingly do anything to hurt me	0.786***			0.691***		
	A typical manager in my unit is sincerely concerned with the problems of others.	0.865***			0.871***		

(*Continues*)

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APPENDIX 1. (Continued)

Concept	*Item*	*Sample 1 Factor loading*	*CR*	*α*	*Sample 2 Factor loading*	*CR*	*α*
	Most of the times, the managers try to be helpful rather than just look out for themselves	0.837***			0.887***		
Managers' reliability	The managers in my unit have a strong sense of justice.	0.856***	0.94	0.92	0.881***	0.93	0.92
	The managers in my unit try hard to be fair in dealings with others.	0.892***			0.882***		
	The actions and behavior of the managers in my unit are always consistent.	0.833***			0.821***		
	Integrity is a key value in the operations of the managers of my unit.	0.881***			0.829***		
	In general, most managers in my unit keep their promises.	0.821***			0.802***		
	The managers in my unit communicate openly about things that are important to me.	0.793***			0.813***		
Capability of the organization	My organization adapts well to changing conditions.	0.628***	0.92	0.91	0.742***	0.91	0.90
	There are work practices in my organization that help us to overcome exceptional situations.	0.659***			0.718***		
	It is easy for me to get things done in my organization.	0.644***			0.679***		
	Our organization efficiently utilizes the expertise of its staff.	0.672***			0.715***		
	Work is well organized in my organization.	0.678***			0.717***		
	My organization functions on such a firm foundation that changes in our business context do not threaten our operations.	0.617***			0.703***		
	Employees have a bright future when working with this employer.	0.679***			0.774***		
	Our top management has a clear vision of the future.	0.657***			0.650***		
	Certain changes need to take place in top management if we want to develop our operations. (R)	0.346***			0.377***		
	In my opinion, the top management is taking my organization in the right direction.	0.720***			0.709***		
	The top management does not make decisions that will endanger the future operations of my organization.	0.610***			0.579***		
	I have faith in the expertise of the top management.	0.752***			0.705***		
	The tools I need in my every day work, work properly.	0.576***			0.512***		
	The hardware (e.g. computer hardware and production machines) that is crucial for our operations functions reliably.	0.621***			0.428***		
	I receive assistance with technical problems whenever I need it.	0.655***			0.496***		
	We have products and services that allow us to match the competition.	0.657***			0.621***		
	The other players in our line of business are ahead of us. (R).	0.445***			0.322***		
	Outsiders consider my employer to be a successful player in its field.	0.659***			0.457***		

(*Continues*)

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APPENDIX 1. (Continued)

Concept	*Item*	*Sample 1 Factor loading*	*CR*	*α*	*Sample 2 Factor loading*	*CR*	*α*
Fairness of the organization	The people rewarded for the success of my organization are those who deserve to be rewarded.	0.659***	0.89	0.86	0.645***	0.88	0.85
	My employer offers me opportunities to learn new skills and develop myself in my profession.	0.672***			0.648***		
	Skilled employees are offered more responsible positions.	0.662***			0.605***		
	My employer has kept the promises they made with regard to my job and personal development.	0.685***			0.727***		
	My salary is fair in comparison with that received by other employees in my organization who do similar work.	0.535***			0.553***		
	The top management never puts their success ahead of that of the employees.	0.635***			0.478***		
	In my organization there is opportunism that harms our operations. (R)	0.221***			0.336***		
	I never have to compromise my ethical principles in order to succeed in my organization.	0.571***			0.447***		
	The top management has made it clear that unethical action is not tolerated in my organization.	0.518***			0.526***		
	I get information on the organizational changes that are important to me.	0.702***			0.686***		
	The information I get in my organization is up-to-date.	0.730***			0.721***		
	Information on matters important to me is communicated openly in my organization.	0.784***			0.799***		
	My organization's internal communication functions poorly. (R)	0.565***			0.566***		
Commitment	I am quite proud to be able to tell people who is it that I work for.	0.828***	0.84	0.77	0.791***	0.80	0.72
	I sometimes feel like leaving this employment for good. (R)	0.575***			0.686***		
	Even if the organization were not doing too well financially, I would be reluctant to change to another employer.	0.652***			0.581***		
	In my work I like to feel I am making some effort, not just for myself, but for the organization as well.	0.237***			0.480***		
	If I were offered a bit better salary with another employer, it would not seriously make me think of changing my job.	0.712***			0.531***		
	I would not recommend a close friend to join our staff. (R)	0.783***			0.600***		
	Knowing that my work has made a contribution to the good of the whole organization pleases me.	0.680***			0.555***		

***Statistically significant at a 0.005 significance level. (R)eversed item.

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